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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/891,504	06/27/2001	Hyeon Ho Son	054358-5003	8794

9629 7590 04/01/2004  
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EXAMINER

NGUYEN, JENNIFER T

ART UNIT PAPER NUMBER

2674

DATE MAILED: 04/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/891,504

Applicant(s)

SON, HYEON HO

Examiner

Jennifer T Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 113 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 7-10 is/are rejected.
- 7) ☒ Claim(s) 2-4 and 11-13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. This Office action is responsive to amendment filed on 01/05/2004.

#### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 and 7-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Okada et al. (U.S. Patent No. 6,542,211).

Regarding claims 1 and 7, referring to Figs. 9A1-9A3 and 9B1-9B4, Okada teaches a method for driving a liquid crystal of a thin film transistor liquid crystal display, the method comprising the steps of: applying a first voltage (i.e., drive voltage) corresponding to a real data during a data voltage applying frame; and applying a second voltage (i.e., holding voltage) for maintaining a bend state and preventing the liquid crystal from restoring to a splay state during a maintenance voltage applying frame, wherein the real one frame for driving the liquid crystal includes the data voltage applying frame and the maintenance voltage applying frame subsequent to the data voltage applying frame, and the data voltage applying frame is a data applying time and the maintenance voltage applying frame is a maintenance time, and the data voltage applying frame and the maintenance voltage applying frame are determined by a period of a signal applying to a gate of the liquid crystal display (col. 7, lines 9-25, col. 8, lines 10-15, and col. 15, lines 28-58).

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Regarding claim 8, Okada further teaches that the maintenance voltage applying frame is subsequent to the data voltage applying frame (col. 7, lines 9-25, col. 8, lines 10-15, and col. 15, lines 28-58).

Regarding claim 9, Okada further teaches the data voltage applying frame and the maintenance voltage applying frame are determined by a period of a signal applying to a gate of the liquid crystal display (40) (col. 15, lines 28-58).

Regarding claim 10, Okada further teaches an average voltage of the first voltage and the second voltage applied for driving the liquid crystal during the real one frame is greater than a threshold voltage which initiates a transition from the splay state to the bend state (col. 15, lines 28-58).

4. Claims 1 and 7-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Okada et al. (U.S. Patent No. 6,221,444).

Regarding claims 1 and 7-9, referring to Figs. 1A-1C, Okada teaches a method for driving a liquid crystal of a thin film transistor liquid crystal display, the method comprising the steps of: applying a first voltage ( $V_{on}$ ) corresponding to a real data during a data voltage applying frame; and applying a second voltage (i.e., holding voltage) for maintaining a bend state and preventing the liquid crystal from restoring to a splay state during a maintenance voltage applying frame, wherein the real one frame for driving the liquid crystal includes the data voltage applying frame and the maintenance voltage applying frame subsequent to the data voltage applying frame, and the data voltage applying frame is a data applying time and the maintenance voltage applying frame is a maintenance time, and the data voltage applying frame

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and the maintenance voltage applying frame are determined by a period of a signal applying to a gate of the liquid crystal display (col. 3, lines 1-29).

5. Claims 2-4 and 11-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

7. The prior art made of record and not relied upon is considered to pertinent applicant's disclosure.

Koma et al. (Japan Pub. No.: 2000-321556) teaches method for transition of alignment state of LCD.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jennifer T. Nguyen** whose telephone number is **703-305-3225**. The examiner can normally be reached on Mon-Fri from 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard A Hjerpe** can be reach at **703-305-4709**.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, DC. 20231

**Or faxed to: 703-872-9306 (for Technology Center 2600 only)**

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Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, sixth-floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is 703-306-0377.

JNguyen  
03/18/04

  
REGINA LIANG  
PRIMARY EXAMINER